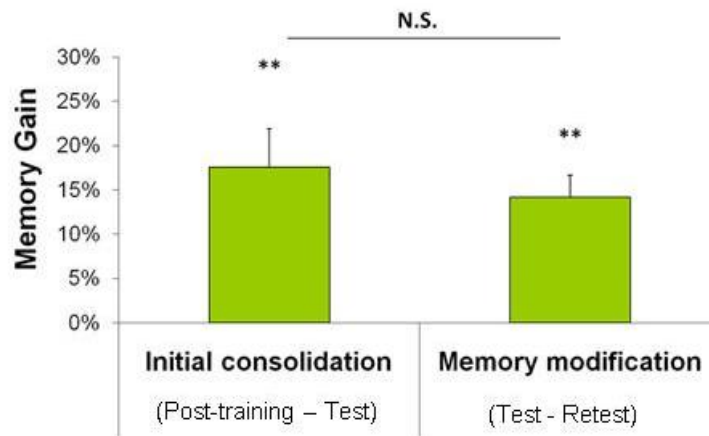


# Modification of Existing Human Motor Memories Is Enabled by Primary Cortical Processing during Memory Reactivation

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**Figure S1. Results of Experiment 1: Subjects received no stimulation (see Experimental Procedures) and showed significant consolidation and further efficient modification of the motor memory.**

We first assessed initial consolidation of the motor memory (% improvement from day 1 posttraining to day 2 test) and subsequent additional gains in performance pointing to efficient memory modification (from test on day 2 to retest on day 3). In the absence of stimulation, subjects ( $n=10$ ) improved from day 1 to day 2 (by mean  $17.6\% \pm 4.36\%$  SEM,  $p<0.002$ ), off-line performance gains pointing to successful consolidation of the motor skill memory. Subjects continued to improve between day 2 test and day 3 retest (by  $14.2\% \pm 2.5\%$ ,  $p<0.0004$ ), pointing to efficient modification of the motor memory. There were no significant differences between initial consolidation gains (between posttraining and test) and memory modification gains (between test and retest,  $p=0.29$ ). These results are consistent with previous reports showing improved performance as a measure of consolidation, followed by further modification and strengthening of the motor memory through reconsolidation [8, 9, 13]. Error bars represent SEM. Repeated measures analysis of variance (ANOVA) and paired  $t$  tests were used. Asterisks indicate \*\* for  $p<0.005$ ; \* for  $p<0.05$ ; N.S. for non-significance.